Going to the Next Level

Making St. Lucie County

a Model Green Community

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www.nrdc.org

Wal-Mart Goes Green

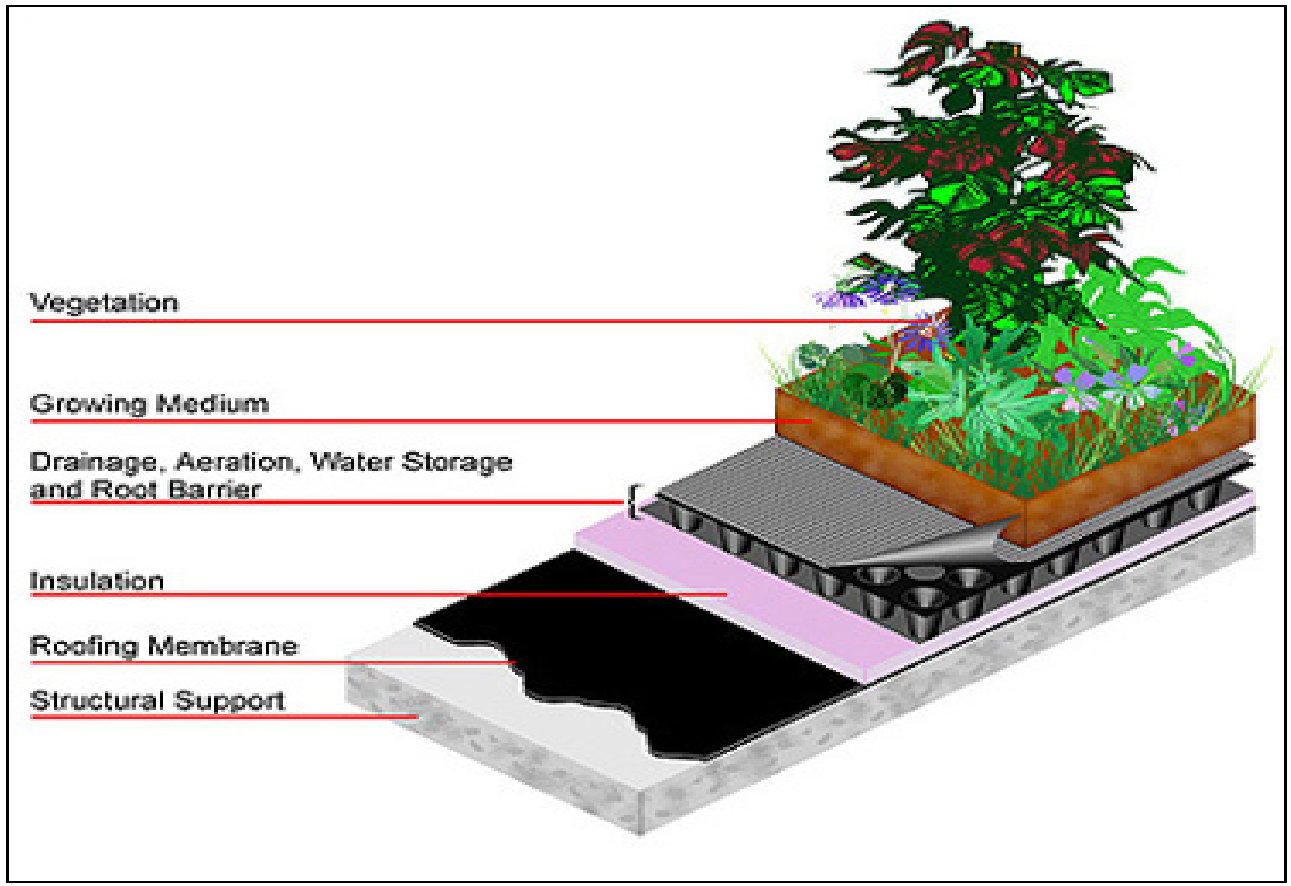
In a speech broadcast to all of Wal-Mart's facilities last November, Chief Executive Lee Scott set several ambitious goals: Increase the efficiency of its vehicle fleet by 25% over the next three years, and double efficiency in ten years. Eliminate 30% of the energy used in stores. Reduce solid waste from U.S. stores by 25% in three years.

Wal-Mart says it will invest $500 million in sustainability projects, and the company has done a lot more than draw up targets. It has quickly become, for instance, the biggest seller of organic milk and the biggest buyer of organic cotton in the world. It is working with suppliers to figure out ways to cut down on packaging and energy costs. It has opened two "green" supercenters. *Fortune Magazine July 2006*

Going Green Saves Money

- Design – Passive Solar, using shade
- Lighting – reduce use, compact fluorescents,
- Technologies – Solar Hot Water
- Tight buildings – insulation, windows,
- Minimize Maintenance – Trek decking
- Recycled Materials – tile, carpet, countertops
- Air Quality – use non-toxic paints, caulks, primers, floor finishes
- Landscaping – Plant trees
- Roofs – Reflective, Solar PV, Green Roofs

Green Roofs


Vegetation
Growing Medium
Drainage, Aeration, Water Storage and Root Barrier
Insulation
Roofing Membrane
Structural Support

Colorado Springs Green Roof

Chicago Green Roof

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Going Green is Good For You

Public Health

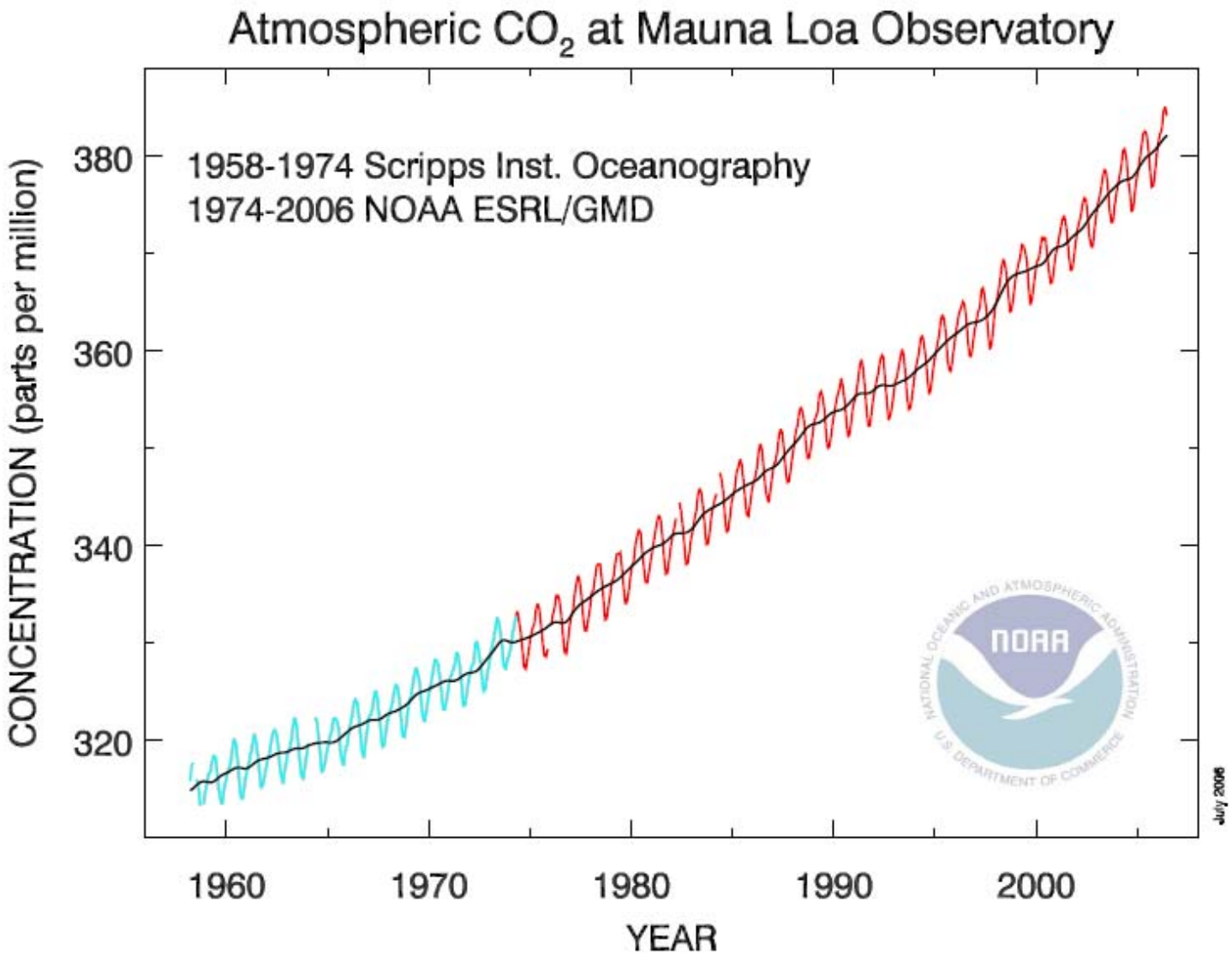
- Asthma and absenteeism, emergency room visits
- Mercury and autism, learning disabilities
- Cardiovascular and respiratory problems
- Lung disease
- Infectious Disease – malaria, dengue fever, yellow fever, and encephalitis
- Algae Blooms – red tide

Going Green Saves the Environment

We must reduce our CO2 emissions, the implications of Global Warming are severe, especially for Florida.

- Species Loss
- Agricultural Pests, changing growing seasons, salt water intrusion in low-lying areas
- Sea Level Rise – storm surge
- Public Health – heat stroke, mosquito borne disease
- Weather - floods, storms and tropical cyclones will worsen causing more damage than they do today; heavy rain and periods of drought
- Water – impacts for an already limited water supply

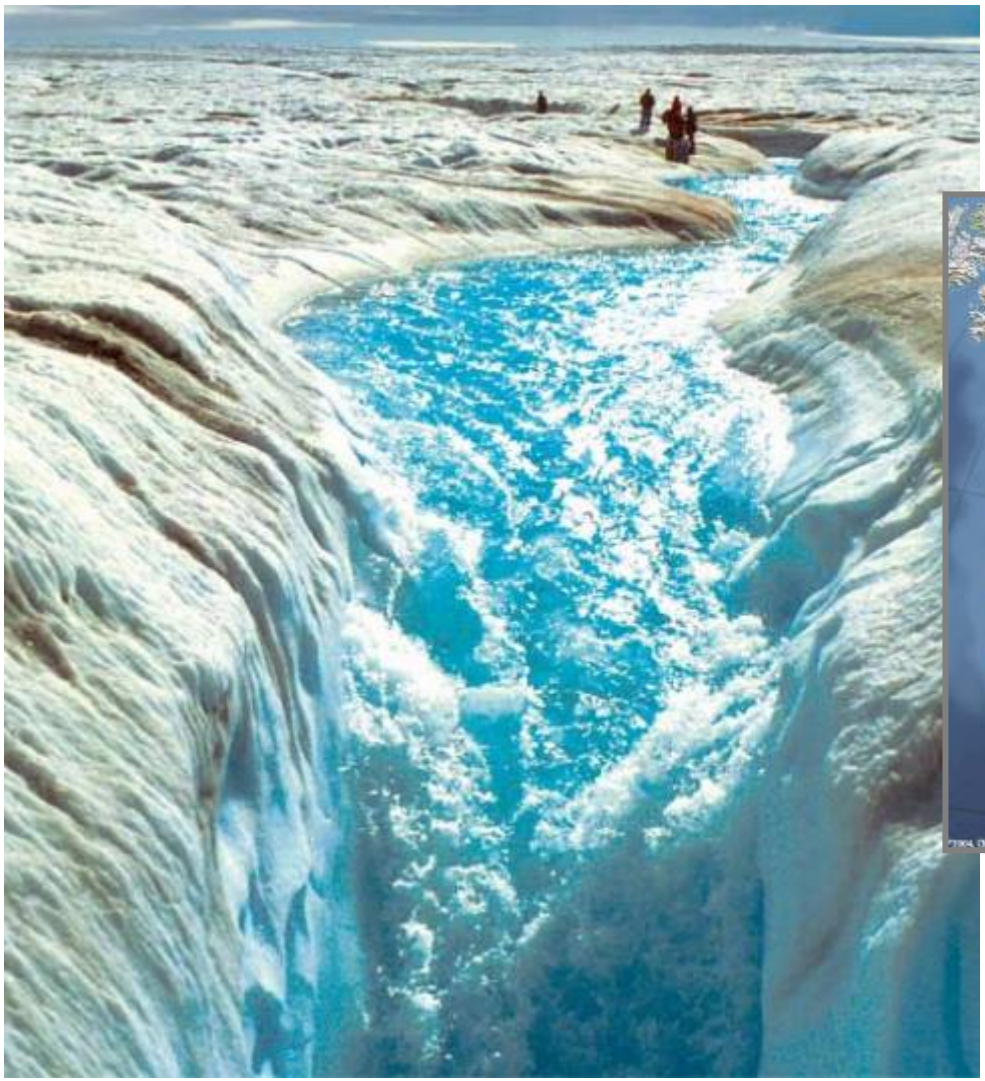
CO_2 levels are increasing



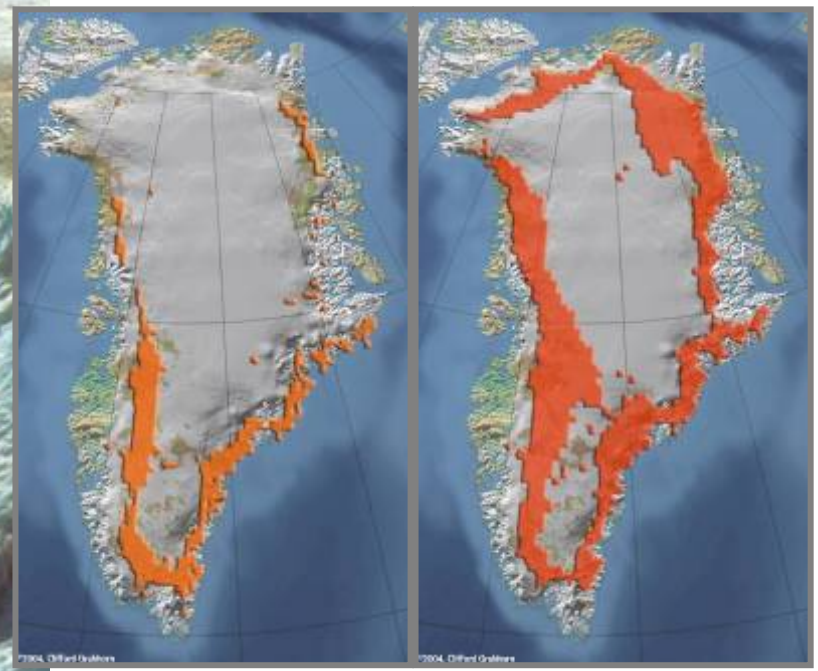
Arctic ice cap is shrinking

PHOTO NASA © NRDC 2005

Glaciers & ice sheets are melting

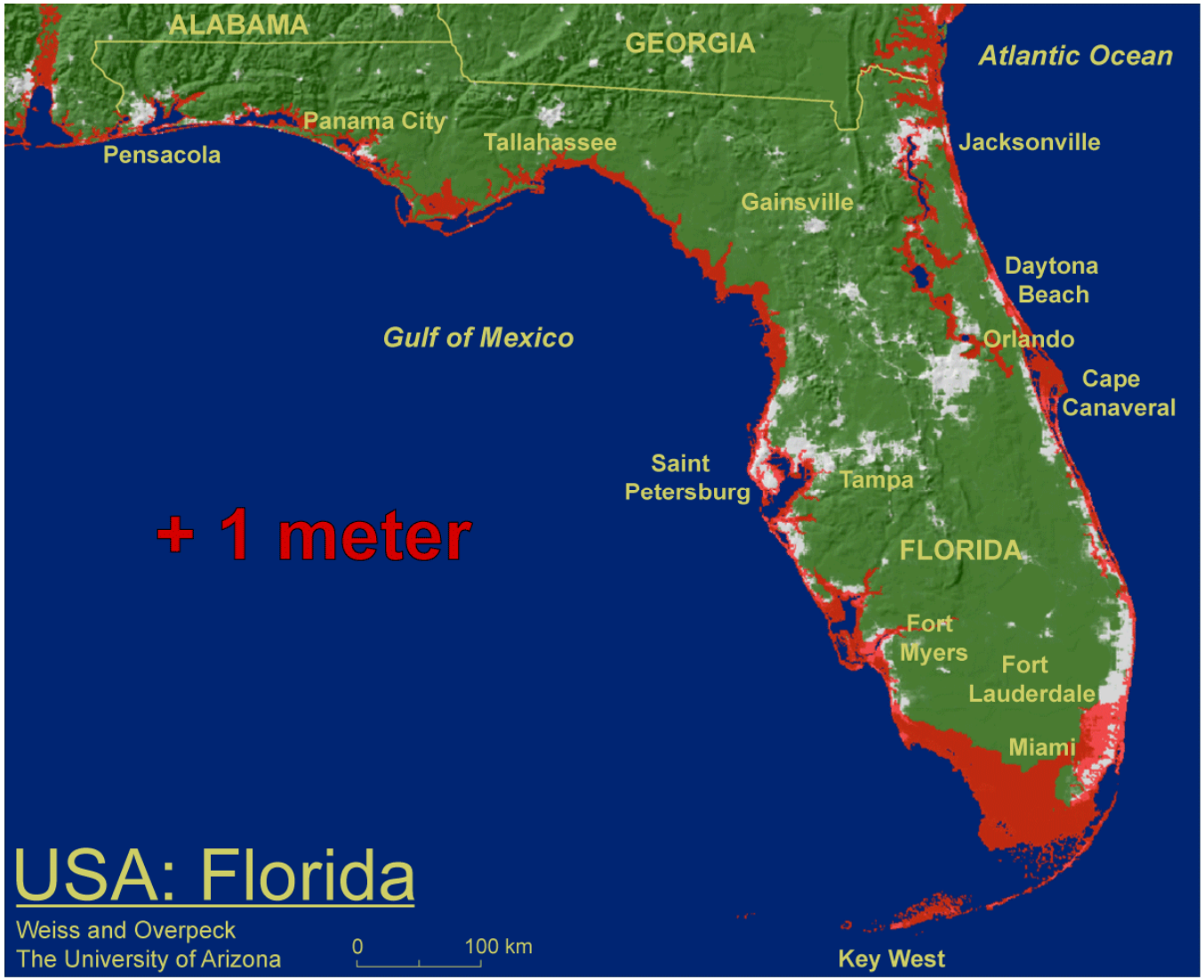


Melt Area

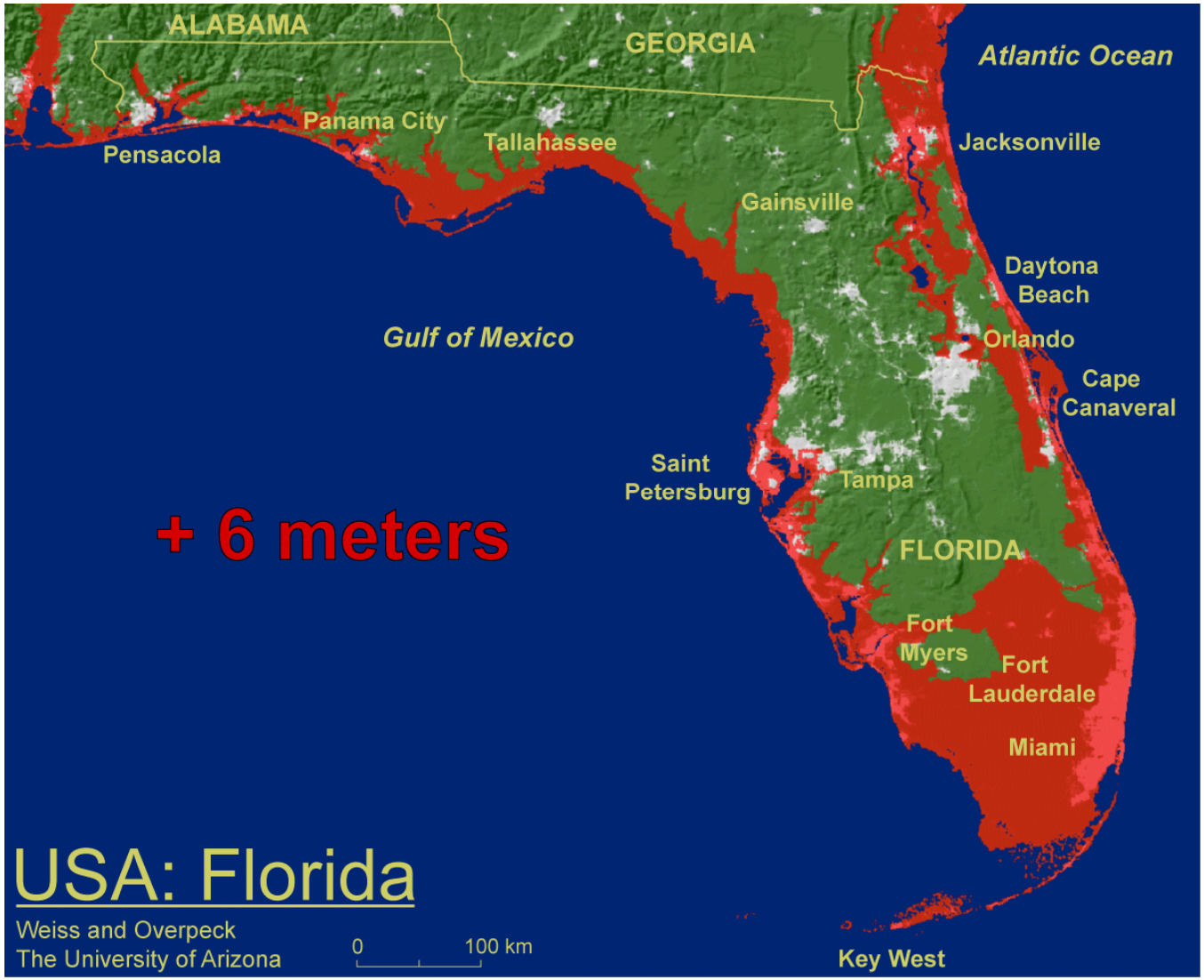


1992 2002

Rising sea levels

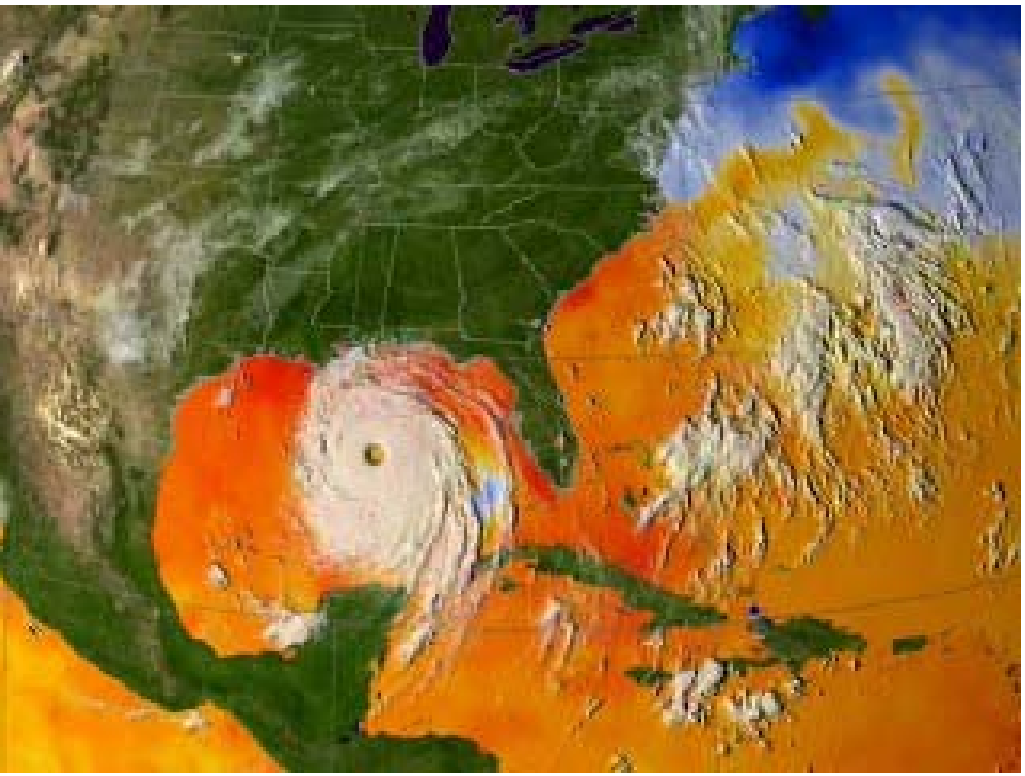


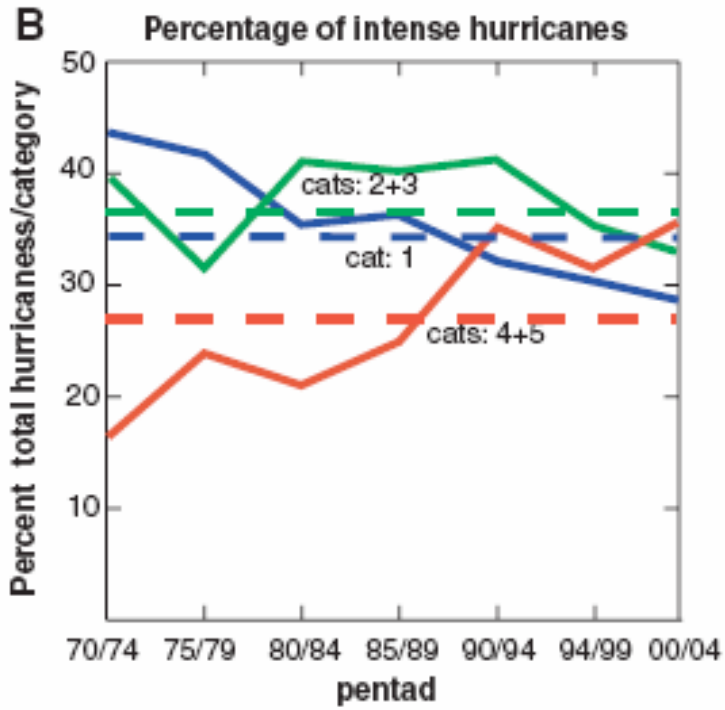
Rising sea levels



Stronger hurricanes

Predicted and observed





Source: Webster et al., *Science*, 16 Sept. 2005.

Also see Emanuel, *Nature*, 4 August 2005.

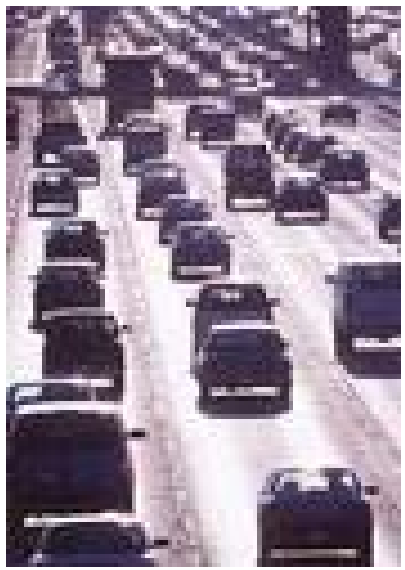
The Solutions to Climate Change are Solutions to more than just climate change

- The co-benefits of climate protection
  - save money
  - reduce air pollution and traffic congestion
- Improve public health and urban livability
- Make your community more attractive
- Boost local economic development
- Create local jobs
- Instill Sense of Pride

Sources of Greenhouse Gas Emissions

Local government policies affect all major sources of global warming pollution

Energy Use



Transportation and Land Use

Solid Waste

U. S. Senate supports mandatory limits

- SENSE OF THE SENATE.—It is the sense of the Senate that Congress should enact a comprehensive and effective national program of mandatory, market-based limits and incentives on emissions of greenhouse gases that slow, stop, and reverse the growth of such emissions at a rate and in a manner that—
  - (1) will not significantly harm the United States economy; and
  - (2) will encourage comparable action by other nations that are major trading partners and key contributors to global emissions.

- Passed June 21, 2005

Benefits of Reducing Fossil Fuel Use

- Save Money – Reduce Operating Costs
- Create Jobs/Local Economic Development
- Increase Disposable Income
- Reduce Greenhouse Gas Emissions
- Reduce All Types of Air Pollution
- Improve Energy Quality - Clean Renewable Sources
- Reduce Traffic Congestion
- Improve Quality of Life and Public Health

Local CO2 Reduction Plan

- Step 1 – Commitment to Planning Process
- Step 2 – Emissions Inventory
- Step 3 – Forecast Emissions
- Step 4 – Reduction Strategies and Actions
- Step 5 – Identify a GHG Emission Reduction Target
- Step 6 – Formulate and Approve Local Action Plan
- Step 7 – Establish Evaluation and Enforcement

Emissions Reduction Programs

- Diesel retrofit programs
  - School Buses
    - 1,800 daily bus routes
    - $14 million transportation budget
- Truckstop electrification
- Lawn mower rebates and gas-can trade outs
- Idle reduction policy
- Air quality education for educators
- Purchase renewable energy
- Promotion of infill development
- Pervious pavements
- Adsil energy efficiency coatings for HVAC units
- High-performance building techniques
- Brownfields redevelopment
- LED Traffic Lights

School Districts Look to Save Fuel Costs with Biodiesel

School districts in Palm Beach and St. Lucie counties in Florida are hoping to cut sky-high diesel fuel costs with a switch to biodiesel. In the St. Lucie School District, officials have seen the fuel budget reach $2.9 million, up nearly $1.4 million from a year ago. The district's fleet of about 450 buses consumes more than 1 million gallons of diesel per year and has been hit with high fuel prices.

In Florida, proponents of biodiesel are hoping that the high diesel prices will prompt a shift to this cleaner, renewable fuel. Last year, the state was hit hard by Hurricanes Katrina and Rita which shut down the Gulf Coast refineries. Faced with the prospect of high diesel prices,

Manatee County became the first school district in the state to make the switch to biodiesel last year followed by Polk County which made the transition earlier this year.

Miami-Dade Transit Testing Waters on Hybrid Buses

Miami-Dade Transit added two diesel-electric hybrid buses to its fleet in late July. Now testing a 60-foot diesel-electric hybrid bus manufactured by North American Bus Industries Inc. (NABI) and a 40-foot New Flyer diesel-electric bus equipped with GM-Allison's parallel hybrid drivetrain.

Miami-Dade Transit plans to purchase a total of 219 hybrid buses between 2009 and 2012 as part of its routine fleet replacement program.

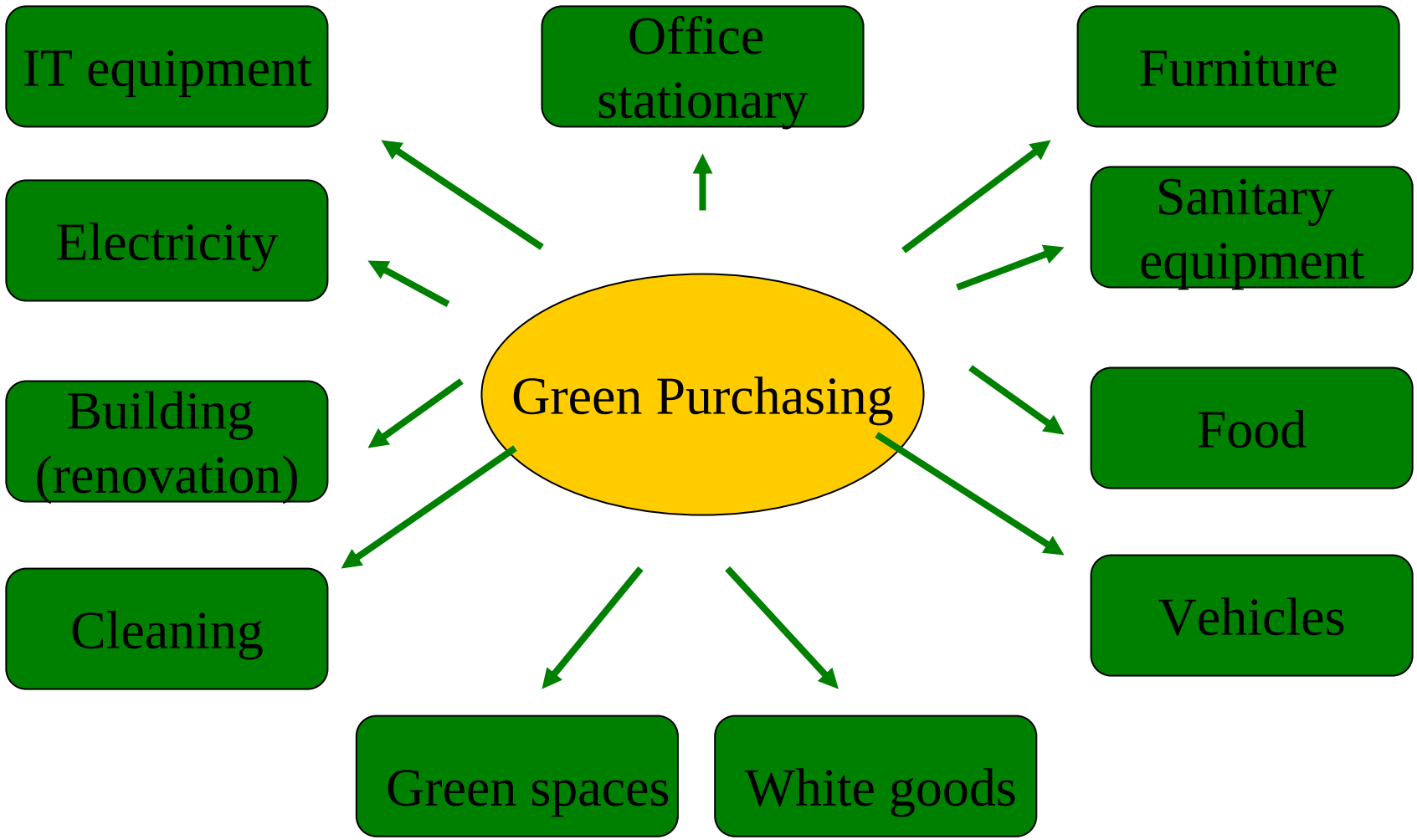
They are looking to pool its purchase order with other transit agencies including Austin (Texas), Las Vegas (Nevada) and Hampton Roads (Virginia) in an effort to reduce the cost per vehicle. Hybrid buses are estimated to cost between 450,000 to 550,000 compared to $300,000 for a conventional diesel bus. Increasingly, transit agencies are looking at ways to reduce the cost of purchasing hybrid buses by 'piggybacking' on other transit agency bus orders.

Large volume orders will help make hybrid buses more affordable and develop the market for this cleaner, advanced technology. *ESSI*

Integration into Public Policy

- Adoption of environmental considerations into local policy and regional documents
- Anti-idling policies
- Land use plans
  - “General Development Policies”
  - Visioning
- Adoption of specific tools into ordinances for land use regulation
  - Connectivity in subdivisions
  - Sidewalks and trees

Energy Efficient Procurement



Harnessing the Power of Advanced Fleet Vehicles

Why Hybrids?

One-third of CO_2 emissions come from transportation.

Passenger vehicles account for 40% of the oil we consume.

Hybrids offer fuel efficiency, convenience (no new infrastructure is needed), greenhouse gas reduction, some criteria air emissions reduction.

- Dramatic reduction in global warming CO2 emissions (about 30-50% reduction).
- Improves urban air quality as the electric motor allows for no emissions when operating at stop and start and at low speeds.
- Higher fuel economy reducing our nation's dependence on imported oil.

Communities Purchasing Hybrids

States

- New York
- New Jersey
- Washington
- California
- Oregon
- Florida
- Nevada
- Colorado
- Missouri
- Maine
- Massachusetts
- Michigan

Cities

- Coral Springs,FL
- Boulder, CO
- Fort Collins, CO
- Denver, CO
- Houston, TX
- Mesquite, TX
- Coppell, TX
- New York, NY
- Los Angeles, CA
- San Francisco, CA
- Austin, TX
- San Antonio, TX
- Lake Oswego, OR
- New Britain, CT
- Seattle, WA
- Boise, ID
- Dallas, TX

Counties

- King Co, WA
- Alachua Co, FL
- Marion County, FL
- Windham County, CT
- Martin County, FL Police Dept
- Johnson Co, KS
- Jefferson Co., KY
- Lexington/Fayette Urban Co., KY
- Palm Beach Co, FL
- Arlington Co, VA

Government Hybrid Uses

- Sheriff's Offices
  - Parking enforcement
  - Detective work
  - Light patrol/non-emergency uses
- Social services
- District attorneys offices
  - Process servers
- Parks and Recreation
- Depts. of Environmental Protection
- Depts. of Health
- ETC…..

Government Protecting the Public

Hybrid Bus Performance

- Average 30% better fuel economy than
- conventional diesel fleet
- • Emissions Reductions:
- – 18% Nitrogen Oxide emissions
- – 59% Carbon monoxide
- – 30% Carbon Dioxide
- – 56% Hydrocarbons
- • 41% more reliable
- • National Renewable Energy Lab Report
  - Independent documentation of performance

LED Traffic Signals

- According to manufacturers, LED traffic lights last as long as 100,000 hours, an incandescent bulb has a lifespan of 8,000 hours
- A single LED traffic light uses just 12 watts to operate, compared to the 150 watts used by an incandescent
- Comprehensive replacement of all traffic lights in county
- LED lamps can pay for themselves in as little as five years
- Philadelphia – saves $800,000 yr and reduces CO2 by 41,500 tons